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IN THE DRAWINGS:

The attached sheet of Drawings includes changes to Figure 6. This sheet, which includes Figure 6, replaces the original sheet including Figure 6. In Figure 6, the reference numerals **4** for the data processing core and the transmission data output pad have been replaced with **4A** and **4B**, respectively.

## REMARKS

### I. Status Summary

Claims 1-14 are pending in the present application. Claims 1-4, 13, and 14 presently stand rejected. Claim 5 has been amended. Upon entry of this Amendment, Claims 1-14 will be pending.

### II. Drawings

The Drawings stand objected to under 37 C.F.R. § 1.83(a) because Figure 6 fails to show "transistors T1-T6" as described in the Abstract of the specification. Initially, applicants note that the Abstract has been amended to remove "T1-T6". Further, "T1-T6" are intended as shorthand in the specification to refer to the six pairs of transistors shown in Figure 7. (See e.g., page 20, lines 20-22 and 34-37, of the subject application). Specifically, T1 refers to transistors **TP1** and **TN1**, T2 refers to transistors **TP2** and **TN2**, T3 refers to transistors **TP3** and **TN3**, T4 refers to transistors **TP4** and **TN4**, T5 refers to transistors **TP5** and **TN5**, and T6 refers to transistors **TP6** and **TN6**. (See e.g., page 20, line 37, to page 21, line 37, of the subject application). For this reason, "T1-T6" are not shown in the figures. The specification has been amended as set forth above to provide clarification. For this reason, applicants respectfully submit that the objection to the Drawings under 37 C.F.R. § 1.83(a) should be withdrawn.

Further, the Drawings stand objected to under 37 C.F.R. § 1.84(p)(4) because reference numeral **4** has been used to designate both "CORE" and "PAD" in Figure

6. The specification and Figure 6 have been amended to replace the reference numerals **4** for the data processing core and the transmission data output pad with **4A** and **4B**, respectively. Therefore, reference numeral **4** does not designate more than one component. Accordingly, applicants respectfully submit that the objection to the Drawings under 37 C.F.R. § 1.84(p)(4) should be withdrawn.

### III. Specification

The Abstract stands objected to because transistors "T1-T6" are not shown in Figure 6. The Abstract has been amended to remove "T1-T6". Further, as set forth above in more detail, "T1-T6" are intended as shorthand in the specification to refer to the six pairs of transistors shown in Figure 7. Accordingly, applicants respectfully submit that the objection to the Abstract should be withdrawn.

The specification of the subject application stands objected to because references to claim numbers should not appear in the specification. The specification has been amended to remove references to claim numbers. Accordingly, applicants respectfully submit that the objection to the specification should be withdrawn.

### IV. Claim Rejection Under 35 U.S.C. § 103

Claims 1-3, 13, and 14 stand rejected by the Examiner under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 2007/0188187 to Oliva et al. (hereinafter, "Oliva") in view of U.S. Patent No. 6,731,106 to Whetsel (hereinafter, "Whetsel"). Further, Claim 4 stands rejected by the Examiner under 35 U.S.C. § 103(a) as being unpatentable over Oliva and Whetsel in view of U.S. Patent No.

7,245,144 to Wong et al. (hereinafter, "Wong"). These rejections are respectfully traversed.

Claim 1 recites a test switching circuit for a high speed data interface of an integrated circuit comprising switching transistors which switch in a test mode a termination resistor output stage of a data transmission signal path to a termination resistor input stage of a data reception signal path to form an internal feedback test loop within the integrated circuit. For example, referring to Figure 6, of the subject application, a testing circuit for a high speed data interface **1** of an integrated circuit is shown. Further, the test switching circuit shown in Figure 6 is provided to switch in a test mode, a termination resistor output stage **15** of a data transmission signal path **17** to a termination resistor input stage **18** of a data reception signal path **25**. By switching the termination resistor output stage **15** to the termination resistor input stage **18**, an internal feedback test loop within the integrated circuit is formed. Applicants respectfully submit that Oliva fails to disclose or suggest each and every feature recited by Claim 1.

Oliva describes an adjustable impedance matching circuit. For example, Figure 5 of Oliva, which is referenced by the Examiner, shows an impedance matching apparatus **500** comprising an impedance element control circuit **502**, a pull-up transistor **504**, a programmable resistance element **506**, a comparator **508**, and a resistor divider including first and second transistors **510** and **512**, respectively. The output of comparator **508** is coupled to an input of impedance element control circuit **502**. (See paragraph 0039, of Oliva). Impedance element control circuit **502** is

operable to program resistance element **506** to a high resistance, to a low resistance, or to an intermediate resistance value. Referring to paragraph 0040, Oliva discloses that an equivalent resistance formed by the combination of programmable resistance element **506** and an external reference resistor **514** allows the termination impedance of the pull-up leg to match properly to an external transmission line or other circuit component. An impedance match is performed to compensate, for example, for drift and changes in operating characteristics of the driver caused by voltage or temperature changes.

The Examiner contends that Oliva discloses a switching circuit for a high speed data interface of an integrated circuit comprising switching transistor **504**, **802** for switching a termination resistor **506** output stage (programmable resistance element) of a data transmission signal path to a termination resistor **514** input stage of a data reception signal path. Applicants respectfully submit that termination resistor **514** is an external resistor. (See paragraph 0040, of Oliva). Oliva does not disclose or suggest a termination resistor input stage within a high speed data interface. Consequently, Oliva neither teaches nor suggests a termination resistor input stage of a data reception signal path, as recited by Claim 1. Moreover, Oliva neither teaches nor suggests a test mode where a resistor output stage is switched to an input stage to form an internal feedback test loop in an integrated circuit, as recited by Claim 1. Further, Oliva neither teaches nor suggests the Claim 1 feature of switching transistors which switch in a test mode, as already acknowledged by the Examiner.

Whetzel fails to overcome the significant shortcomings of Oliva. Whetzel discloses a switching circuit for a test mode operation. However, Oliva fails to disclose or suggest the Claim 1 features of a termination resistor input stage of a data reception signal path, or a test mode where a resistor output stage is switched to an input stage to form an internal feedback test loop in an integrated circuit.

For the reasons set forth above, Oliva and Whetzel, either alone or in combination, fail to disclose or suggest each and every feature recited by Claim 1. Accordingly, applicants respectfully submit that the rejection of Claim 1 and its dependent Claims 2 and 3 under 35 U.S.C. § 103(a) should be withdrawn and the claims allowed at this time.

Claim 13 includes features similar to Claim 1. In particular, Claim 13 recites a termination resistor input stage of a data reception signal path, where the termination resistor input stage is provided for adapting the input impedance of the data reception signal path to a load connected to the reception data line. Further, Claim 13 recites a controllable test switching circuit comprising switching transistors for switching in a test mode the termination resistor output stage to the termination resistor input stage to form an internal feedback test loop within said integrated circuit. Therefore, for the reasons set forth above with respect to Claim 1, applicants respectfully submit that Oliva and Whetzel, either alone or in combination, fail to disclose or suggest each and every feature recited by Claim 13. Accordingly, applicants respectfully submit that the rejection of Claim 13 under 35 U.S.C. § 103(a) should be withdrawn and the claim allowed at this time.

Claim 14 includes features similar to Claim 1. In particular, Claim 14 recites a termination resistor output stage of a data transmission signal path, where the termination resistor output stage is provided for adapting the output impedance of the data transmission signal path to a load connected to the transmission data line. Further, Claim 14 recites a controllable test switching circuit comprising switching transistors for switching in a test mode the termination resistor output stage to the termination resistor input stage to form an internal feedback test loop within the integrated circuit. Therefore, for the reasons set forth above with respect to Claim 1, applicants respectfully submit that Oliva and Whetsel, either alone or in combination, fail to disclose or suggest each and every feature recited by Claim 14. Accordingly, applicants respectfully submit that the rejection of Claim 14 under 35 U.S.C. § 103(a) should be withdrawn and the claim allowed at this time.

Claim 4 depends upon Claim 1. Therefore, Claim 4 includes the features recited by Claim 1. For the reasons set forth above with respect to Claim 1, applicants respectfully submit that Oliva and Whetsel, either alone or in combination, fail to disclose or suggest each and every feature recited by Claim 4.

Wong fails to overcome the significant shortcomings of Oliva and Whetsel. Wong discloses adjustable termination resistances in drivers to match the impedance on differential signal lines. (See column 12, lines 18-27, of Wong). However, Wong fails to disclose or suggest the Claim 4 features of a termination resistor input stage of a data reception signal path, or a test mode where a resistor output stage is switched to an input stage to form an internal feedback test loop in an integrated

circuit. Therefore, applicants respectfully submit that Oliva, Whetsel, and Wong, either alone or in combination, fail to disclose or suggest the Claim 4 features of a termination resistor input stage of a data reception signal path, or a test mode where a resistor output stage is switched to an input stage to form an internal feedback test loop in an integrated circuit. Accordingly, applicants respectfully submit that the rejection of Claim 4 under 35 U.S.C. § 103(a) should be withdrawn and the claim allowed at this time.

#### V. Allowable Subject Matter

Claims 5-12 stand objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the features of the base claim and any intervening claims. Claim 5 has been amended to include the features of Claim 1. Accordingly, applicants respectfully submit that Claim 5 and its dependent Claims 6-12 are now in condition for allowance.

#### CONCLUSION

In light of the above Amendments and Remarks, it is respectfully submitted that the present application is now in proper condition for allowance, and an early notice to such effect is earnestly solicited.

If any small matter should remain outstanding after the Patent Examiner has had an opportunity to review the above Remarks, the Patent Examiner is respectfully



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requested to telephone the undersigned patent attorney in order to resolve these matters and avoid the issuance of another Official Action.

DEPOSIT ACCOUNT

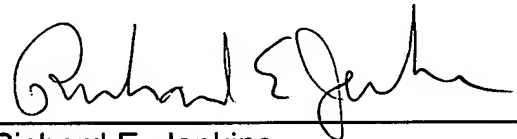
The Commissioner is hereby authorized to charge any fees associated with the filing of this correspondence to Deposit Account No. 50-0426.

Respectfully submitted,

JENKINS, WILSON, TAYLOR & HUNT, P.A.

Date: December 20, 2007

By:



Richard E. Jenkins  
Registration No. 28,428

REJ/BJO/gwc

1406/186

Customer No: **25297**